

AMENDMENTS TO THE CLAIMS

1.-127. (Cancelled)

128. (Currently amended) An immunogenic vaccine composition for raising an immune response against a coronavirus in a dog, the composition vaccinating dogs comprising:

a coronavirus having an a Spike (S) protein with at least 90%75% amino acid identity with Canine Respiratory Coronavirus (CRCV) S protein, or a coronavirus S protein having at least 90%75% amino acid identity with a CRCV S protein or an immunogenic fragment thereof, or a nucleic acid encoding said coronavirus S protein or immunogenic fragment thereof; and

a pharmaceutically acceptable carrier or adjuvant.

129. (Currently amended) An immunogenic vaccine composition according to Claim 128 wherein the coronavirus S protein is a BCV, HCV, HEV or CRCV protein, or a modification thereof.

130. (Cancelled)

131. (Currently amended) An immunogenic vaccine composition according to Claim 128130 wherein the S protein is selected from the group consisting of:

a coronavirus Spike (S) protein, or fragment thereof, having at least 90%75% amino acid sequence identity with SEQ ID NO: 4, or a fragment thereof of at least 200 amino acid residues in length, said S protein or said fragment comprising at least one of the Canine Respiratory Coronavirus (CRCV)-specific amino acids of SEQ ID NO: 4 selected from the group consisting of 103V, 118V, 166D, 171M, 179K, 192P, 210S, 235H, 267F, 388F, 407M, 436S, 440I, 447I, 501F, 525Y, 528N, 540L, 582K, 608G, 692G, 695S, 757W, 758G, 763Q, 769T, 786P, 792H, 818R, 827P, 828V, 887F, 933D, 977F, 1011T, 1018S, 1063K, 1256L, and 1257M the CRCV-S protein whose amino acid sequence is listed in Figure 4, and comprising at least one of the canine respiratory coronavirus (CRCV)-specific amino acids listed in Table 1;

a coronavirus S protein that comprises the amino acid sequence of SEQ ID NO: 4 listed in Figure 4, or a variant thereof with at least 97% amino acid sequence identity with SEQ ID NO: 4 or an immunogenic fragment thereof, wherein the fragment is at least 200 amino acid residues in length the sequence listed in Figure 4;

a BCV S protein or an immunogenic fragment thereof, wherein the fragment is at least 200 amino acid residues in length; and

an HCV S protein or an immunogenic fragment thereof, wherein the fragment is at least 200 amino acid residues in length; and

an HEV S protein, or an immunogenic fragment thereof.

132.-133. (Cancelled)

134. (Currently amended) An immunogenic vaccine composition according to Claim 128 wherein the coronavirus is selected from the group consisting of BCV, HCV, HEV and CRCV, or a modification thereof.

135. (Currently amended) An immunogenic vaccine composition according to Claim 128 and also further comprising a pharmaceutically acceptable adjuvant.

136. (Currently amended) An immunogenic vaccine composition according to Claim 128 further comprising any one or more of:

- (a) an agent capable of raising an immune response in a dog against canine parainfluenza virus (CPIV);
- (b) an agent capable of raising an immune response in a dog against canine adenovirus type 2 (CAV-2);
- (c) an agent capable of raising an immune response in a dog against canine herpesvirus (CHV); and
- (d) an agent capable of raising an immune response in a dog against *Bordetella bronchiseptica* (*B. bronchiseptica*).

137.-143. (Cancelled)

144. (Withdrawn- currently amended) A method of raising an immune response against a coronavirus in vaccinating a dog against CRCV, the method comprising administering to the dog an immunogenic a-vaccine composition according to Claim 128.

145.-163. (Cancelled)

164. (Currently amended) The immunogenic vaccine composition according to Claim 128, wherein said coronavirus is inactivated.

165. (Currently amended) The immunogenic vaccine composition according to Claim 128, wherein said coronavirus is attenuated.